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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,786	11/30/2001	Atsushi Ishikawa	018656-263	4572

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EXAMINER	
BAKER, CHARLOTTE M	
ART UNIT	**PAPER NUMBER**
2625	
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07/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/996,786	ISHIKAWA, ATSUSHI	
	Examiner	Art Unit	
	Charlotte M. Baker	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

2. A notice of appeal in a different case (09/966786) was erroneously placed in the file of the present application; therefore Applicant's amendment dated 12/26/2006 was not acted on until this time. This error has been corrected in the system.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. There was a clerical error in the system and the foreign priority date was listed as 01/12/2000 instead of 12/01/2000. This has been changed to reflect the correct foreign priority date.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohuchi (5,025,481) in view of Kaburagi et al. (5,805,738).

Regarding claim 1: Ohuchi discloses a dot characteristic point extracting device (Fig. 3, extreme point detecting part 12) that extracts dot characteristic points from the M-level image data (col. 5, ln. 63 through col. 6, ln. 10); a dot area identifying device (Fig. 3, dot region

detecting part 13) that determines whether a target pixel belongs to a dot area based on the results of the extraction carried out by the dot characteristic point extracting device (Fig. 3, extreme point detecting part 12) (col. 6, ln. 11-27); and a parameter setting unit (Fig. 3, region discrimination signal output part 14); based on the results of the determination carried out by the dot area identifying device (Fig. 3, dot region detecting part 13).

Ohuchi fails to specifically address an N-level conversion unit that converts the M-level image data into N-level image data (M > N); that sets the N-level conversion parameters used by the N-level conversion unit.

Kaburagi et al. disclose an N-level conversion unit (Fig. 2, gradation conversion processing unit 204) that converts the M-level image data into N-level image data (M > N) (Abstract and Fig. 2, gradation conversion processing unit 204); that sets the N-level conversion parameters used by the N-level conversion unit (Fig. 2, gradation conversion processing unit 204) (col. 8, ln. 9-63).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to include N-level conversion in order to provide stable image formation as taught by Kaburagi et al. (col. 8, 58-63).

Regarding claim 2: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 1.

Ohuci discloses an area identifying device (Fig. 3, region discrimination signal output 14) that determines whether the target pixel belongs to a character area **or** a photograph area (col. 6, ln. 11-32), wherein the parameter setting unit (Fig. 3, region discrimination signal output part 14);

based on the results of the determination carried out by the area identifying device (Fig. 3, region discrimination signal output 14) and the results of the determination carried out by the dot area identifying device (Fig. 3, dot region detecting part 13).

Ohuchi fails to specifically address specifies N-level conversion parameters in the N-level conversion unit.

Kaburagi et al. disclose specifies N-level conversion parameters in the N-level conversion unit (Fig. 2, gradation conversion processing unit 204) (col. 8, ln. 9-63).

Regarding claim 3: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 2. Ohuchi discloses wherein said area identifying device (Fig. 3, region discrimination signal output part 14) determines whether the target pixel belongs to a character area or a photograph area (col. 6, ln. 11-32) based on the difference between the largest density value and the smallest density value in the area of a certain size including the target pixel (col. 6, ln. 11-32).

Regarding claim 4: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 1.

Ohuchi fails to specifically address wherein said N-level conversion unit performs N-level conversion of M-level image data using the error diffusion method.

Kaburagi et al. disclose wherein said N-level conversion unit (Fig. 2, gradation conversion processing unit 204) (col. 8, ln. 9-63) performs N-level conversion of M-level image data using the error diffusion method (Fig. 3, error diffusion processor 503).

Regarding claim 5: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 4.

Ohuchi fails to specifically address wherein the N-level conversion parameters set by the parameter setting unit include an N-level conversion error gain adjustment value.

Kaburagi et al. wherein the N-level conversion parameters set by the parameter setting unit include an N-level conversion error gain adjustment value (maximum value controller 503, col. 8, ln. 24-63).

Regarding claim 6: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 4.

Ohuchi fails to specifically address wherein the N-level conversion parameters set by the parameter setting unit include an N-level conversion reference value.

Kaburagi et al. wherein the N-level conversion parameters (Fig. 2, gradation conversion processing unit 204) (col. 8, ln. 9-63) set by the parameter setting unit include an N-level conversion reference value (col. 8, ln. 16-57).

Regarding claim 7: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 1.

Ohuchi discloses wherein said dot characteristic point extracting device (Fig. 3, extreme point detecting part 12) extracts as dot characteristic points isolated points having a density difference of a specified minimum value from their surrounding pixels (col. 5, ln. 63 through col. 6, ln. 10 and col. 6, ln. 35-57), and said dot area identifying device (Fig. 3, dot region detecting part 13) identifies a dot area by comparing with a specified threshold value (col. 6, ln. 35-57) the number of isolated points existing in an area of a specified size that includes the target pixel (col. 5, ln. 63 through col. 6, ln. 10 and col. 6, ln. 35-57).

Regarding claim 8: The structural elements of apparatus claim 1 perform all of the steps of method claim 7. Thus, claim 7 is rejected for the same reasons discussed in the rejection of claim 1.

Regarding claim 9: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 8. The structural elements of apparatus claim 2 perform all of the steps of method claim 9. Thus, claim 9 is rejected for the same reasons discussed in the rejection of claim 2.

Regarding claim 10: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 9. The structural elements of apparatus claim 4 perform all of the steps of method claim 10. Thus, claim 10 is rejected for the same reasons discussed in the rejection of claim 4.

Regarding claim 11: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 10. The structural elements of apparatus claim 5 perform all of the steps of method claim 11. Thus, claim 11 is rejected for the same reasons discussed in the rejection of claim 5.

Regarding claim 12: Ohuchi in view of Kaburagi et al. satisfy all the elements of claim 10. The structural elements of apparatus claim 6 perform all of the steps of method claim 12. Thus, claim 12 is rejected for the same reasons discussed in the rejection of claim 6.

Regarding claim 13: Arguments analogous to those stated in the rejection of claim 1 are applicable. In addition, Ohuchi discloses an input unit (Fig.3, input image processing part 11) that inputs M-level image data (digital multilevel signal) (col. 5, ln. 63-68); an output unit that outputs an image (Fig. , region discrimination signal output part 14).

Ohuchi fails to specifically address based on the N-level image data.

Kaburagi et al. disclose based on the N-level image data (Fig. 2, gradation conversion processing unit 204) (col. 8, ln. 9-63).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlotte M. Baker whose telephone number is 571-272-7459. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB

KIMBERLY WILLIAMS
PRIMARY PATENT EXAMINER